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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Tatsuhiko Kagehiro

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REED SMITH LLP

3110 FAIRVIEW PARK DRIVE, SUITE 1400

FALLS CHURCH, VA 22042

EXAMINER

ALLISON, ANDRAE S

ART UNIT

PAPER NUMBER

2624

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/715,367	<b>Applicant(s)</b> KAGEHIRO ET AL.	
	<b>Examiner</b> ANDRAE S. ALLISON	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on REC filed 03/16/2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8,12,14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-6, 8, 12, 14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on March 16, 2009 have been entered. Claims 1-2, 4-6, 8, 12 and 14, 16-20 are pending.

### ***Response to Remarks***

#### **Claim Rejections – 35 USC section § 112**

Applicant has amended claims 1 and 12 to overcome the 112 1<sup>st</sup> paragraph rejection, therefore the 112 1<sup>st</sup> rejection is being withdrawn.

Applicant has not amended claim 1 to provide proper antecedent basis for the claim limitation, 'the range of similarity', therefore the 112 2<sup>nd</sup> rejection is not being withdrawn.

#### **Claim Rejections – 35 USC section § 103**

Applicant argue on pages 9-10 that Applicant specification, refer to as Spec in view of Giesecke fail to teach comparing the one or more initial images of the initial

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bank note to the one or more subsequent images of the counterfeit bank note by calculating values indicating the degree of similarity between the initial banknote and the counterfeit bank note in order to obtain a comparison result; and retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note are within a range of similarity to the one or more subsequent images of the counterfeit bank note, wherein the steps of extracting one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note are carried out using the same image extraction device. However, it is noted that the features upon which applicant relies (i.e. comparing the one or more initial images of the initial bank note to the one or more subsequent images of the counterfeit bank note by calculating values indicating the degree of similarity between the initial banknote and the counterfeit bank note in order to obtain a comparison result; and retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note are within a range of similarity to the one or more subsequent images of the counterfeit bank note, wherein the steps of extracting one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note are carried out using the same image extraction device) are not recited in the previously rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Moreover, Spec clearly teaches comparing the one or more initial images of the initial bank note to the one or more subsequent images of the counterfeit bank note by calculating values indicating the degree of similarity between the initial banknote and the counterfeit bank note in order to obtain a comparison result in page 2, [p][004] where an initial bank is determined to be a counterfeit and the initial note is then further processed as a subsequent bank note. Also note that the initial bank note is also referred to as the subsequent bank note and the note was processed by the same ATM using the same extraction device – see page 2 [p][005], therefore Spec clearly teaches wherein the steps of extracting one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note are carried out using the same image extraction device. However, note that Spec fail to teach retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note are within a range of similarity. Therefore, the Examiner introduced Giesecke to cure the deficiencies of Spec. Giesecke discloses a method for tracing counterfeit money that includes the step of retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note and the one or more images of the counterfeit bank note are within a range of similarity (see page 2) to one or more subsequent images of the counterfeit bank note.

On page 10, Applicant argued that Giesecke fail to teach “within the range of similarity”, however, on page 3, Giesecke clearly teaches that in order to trace counterfeits, a counterfeit bill is inserted into the ATM and data is extracted and this

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data is then compared to preset data stored in the ATM. Therefore, it would have been obvious that the data extracted has to be in the range of similarity to the pre-set data in the ATM for the counterfeit bill to be identified.

Applicant also argue on pages 11-12, that Jones and ProCashin fail to teach “comparing the one or more initial images of the initial bank note to the one or more subsequent images of the counterfeit bank note by calculating values indicating the degree of similarity between the initial banknote and the counterfeit bank note in order to obtain a comparison result; and retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note are within a range of similarity to the one or more subsequent images of the counterfeit bank note, wherein the steps of extracting one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note are carried out using the same image extraction device”,”

However, neither references were relied upon for the rejection of claim 1 and 12.

### Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6 and 8 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the range of similarity" in lines 18. There is insufficient antecedent basis for this limitation in the claim.

Claims 2-6 and 8 are being rejected as incorporating the deficiencies of the claim upon which each respective claim depends.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Background of Specification and Fig 1 (referred to as Spec) in Giesecke et al (NPL document titled: "PIDSY® Post Identification System").

As to independent claim 12, Spec discloses a method of tracing bank notes (method to tracing counterfeit money - page 1, [p][001]), comprising the steps of: receiving a deposit of an initial bank note (see page 2, [p][004], lines 3-6 - where an initial bill is deposited); extracting one or more initial images from the initial bank note using a sensor (102 - see Fig 1); attaching an initial transaction log to the one or more initial images (note that the serial number of the initial bill is extracted and stored in a transaction log – [p][006], lines 1-11); receiving one or more images of a bank, which is physically the same bank note after being identified as counterfeit bank note, wherein

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the step of receiving one or more subsequent images comprises a deposit of a subsequent bank note (see [p][005], lines 7-8) comparing the one or more initial images of the initial bank note to the one or more images of the counterfeit bank note by calculating value indicating the degree of similarity between the initial banknote and the counterfeit bank note in order to obtain a comparison result (see [p][0010], lines 1-6), wherein the steps of extracting one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note are carried out using the same image extraction device (note that the initial bank note is also referred to as the subsequent bank note and the note was processed by the same ATM using the same extraction device – see page 2 [p][005]). Spec teaches retrieving the initial transaction log, however does not specifically mention retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note and the one or more images of the counterfeit bank note are within a range of similarity to one or more subsequent images of the counterfeit bank note. Giesecke discloses a method for tracing counterfeit money that includes the step of retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more initial images of the initial bank note and the one or more images of the counterfeit bank note are within a range of similarity (see page 2) to one or more subsequent images of the counterfeit bank note. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modified the Spec with the method for tracing counterfeit money of Giesecke to bring together the data of counterfeit with original data of a deposit if a counterfeit bill



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is detected so that the origin of the counterfeit can be traced. Note the discussion above, Spec in view of Giesecke fail to teach wherein the steps of extracting one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note are carried out using the same image extraction device. However, it would have been obvious to extract one or more initial images from the initial bank note and extracting one or more subsequent images of the counterfeit bank note using the same image extraction device so that a signature of counterfeit bill could be create at the ATM and then transferred to a central location to be distributed to other ATMs.

6. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Background of Specification and Fig 1 (referred to as Spec) in Giesecke et al (NPL document titled: "PIDSY® Post Identification System") further in view of ProCashin (NPL document titled: "ProCashIn/Signature for § 36 BbankG").

As to claim 14, note the discussion above, neither Spec or Giesecke teaches the method, wherein the step of extracting one or more initial images comprises: extract a front side initial image of the initial bank note in a first initial position; extract a front side initial image of the initial bank note in a second initial position; extract a back side initial image of the initial bank note in a first initial position; and extract a back side initial image of the initial bank note in a second initial position. ProCashin discloses a method to remove counterfeit money from circulation by back tracing ( page 2, [p][001-003]), wherein the step of extracting one or more initial images comprises: extract a front side

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initial image of the initial bank note in a first initial position; extract a front side initial image of the initial bank note in a second initial position; extract a back side initial image of the initial bank note in a first initial position; and extract a back side initial image of the initial bank note in a second initial position (see page 24, section Scanning in the counterfeit bill). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combined the Spec as modified by Giesecke and the method of ProCashin to create a database during a current customer operation and the subsequent tracing of a depositor of a bill recognized as a counterfeit by a central bank and carrying out the tracing using special software (see page 39, [p][002]).

As to claim 15, note the discussion above, ProCashin teaches the method, wherein the step of receiving one or more subsequent images comprises: receiving a deposit of a subsequent bank note; and extracting one or more subsequent images from the subsequent bank note (see page 24, section Scanning in the counterfeit bill).

As to claim 16, note the discussion of claim 14 above.

As to claim 17, note the discussion above, ProCashin teaches the method, wherein the step of comparing comprises comparing each subsequent image in each subsequent position a plurality of times to a corresponding initial image (see page 14, section Handling the bill backtracking operation).

As to claim 18, note the discussion above, ProCashin teaches the method,

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wherein the one or more initial images include a unique characteristic that is specific to only one bank note, wherein the initial bank note is the only one bank note with the unique characteristic, wherein the unique characteristic includes other information besides a serial number of the initial bank note (signature data, page 14, section Notation, [p][0021]).

7. Claims 1-6, 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Background of Specification and Fig 1 (referred to as Spec) in Giesecke et al (NPL document titled: "PIDSY® Post Identification System") further in view of Jones et al (Pub No.: US 2003/0059098).

As to independent claim 1, this claim differs from claim 12 only in that claim 1 is apparatus whereas, claim 12 is method and the limitations an automatic teller machine (ATM) electronically connected to one or more devices, the one or more devices comprising: a deposit device, wherein an initial bank note being transferred to an image extraction device, an image extraction device; a transaction log device, a comparison device and a retrieval device are additively recited. Giesecke clearly discloses an ATM electronically connected to one or more devices, the one or more devices (see Fig on page 2), however neither Spec nor Giesecke disclose a deposit device wherein an initial bank note being transferred to an image extraction device, an image extraction device; a transaction log device, a comparison device and a retrieval device. Jones discloses an automatic teller machine (ATM) (see Fig 1) electronically connected to one or more devices, the one or more devices comprising (see [p][0049], lines 8-10, where Fig 1 is

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used as a stand alone device such as an ATM ): a deposit device (110, input receptacles; see Fig1) wherein an initial bank note being transferred to an image extraction device (see Fig 3a, step 210), an image extraction device (140, image scanner; see Fig 1); a transaction log device (160; memory; see Fig 1); a comparison device (140, controller, see Fig 1) and a retrieval device (140, controller, see Fig 1).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combined the teaching of Spec as modified by Giesecke with Jones to track currency bills by extracting identification characteristics so that each processed bill can be associated with the customer depositing the bills, (see [p][0010]).

As to claim 2, note the discussion above, Jones teaches the automatic teller machine the one or more devices further comprising at least one of: a storage device (180, memory, see Fig 1) configured to store the one or more initial images and the transaction log and a network link (see Fig 4a) to an external storage device configured to store the one or more initial images and the transaction log.

As to claim 3, ProCashin teaches the method wherein the comparison device is further configured to determine if the one or more initial images are within a range of similarity to the one or more subsequent images (page 14, section Handling the bill back tracing operation, [p][001] ).

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As to independent claim 4, ProCashin teaches extract a front side image of the counterfeit bank note in a first position; extract a front side image of the counterfeit bank note in a second position; extract a back side image of the counterfeit bank note in a first position; and extract a back side image of the counterfeit bank note in a second position (see page 24, section Scanning in the counterfeit bill).

As to claim 5, note the discussion of claim 4 above.

Claim 6 differ from claim 17, only in that claim 17 is method claim whereas, claim 6 is apparatus claim. Thus, claim 6 is analyzed as previously discussed with respect to claim 17 above.

Claim 8 differ from claim 19, only in that claim 18 is method claim whereas, claim 8 is apparatus claim. Thus, claim 8 is analyzed as previously discussed with respect to claim 19 below.

As to claim 20, Jones teaches the method of wherein the steps of the method are stored on a computer-readable medium (memory, 160, see Fig 1) as one or more instructions (software, [p][0051], line 6) for tracing bank notes, wherein the one or more instructions, when executed by one or more processors (150, see Fig 1), cause the one or more processors to perform the steps of the method.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Background of Specification and Fig 1 (referred to as Spec) in Giesecke et al (NPL document titled: "PIDSY® Post Identification System") further in view of Onishi et al (Pub No.: US 2002/0136457).

As to claim 19, neither Spec nor Giesecke disclose expressly the method wherein the step of comparing comprises: analyzing image characteristics using a Euclid distance formula; and determining that the one or more initial images and the one or more subsequent images have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero.

Onishi disclose a method for establishing correspondences between an input image and a reference image ([p][0001], lines 1-3) that includes using a Euclid distance formula (normalized correlation coefficient, [p][0045], line 1-9); and determining that the one or more initial images and the one or more subsequent images have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero (see [p][0048], lines 1-8, where if the input image and the reference images are similar the normalized correlation coefficient becomes zero).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have combined the teaching of Onishi with the teachings of Spec as modified by Giesecke to find similarities between an initial bill and a stored or subsequent bill in order to determine if the initial bill is counterfeit.

***Inquires***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDRAE S. ALLISON whose telephone number is (571)270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrae S Allison/

May 27, 2009

/Vikkram Bali/

Supervisory Patent Examiner, Art Unit 2624